that for a copolymer made from A and B monomers, one end of the spectrum is a polymer comprised of strictly alternating A-B-A-B units (an "alternating copolymer"), while the other end is a polymer having one end A-A-A in a single block with the other end B-B-B in a single block (a "block copolymer"). Random copolymers are comprised of segments of A and segments of B monomer occurring along the polymer chain, the segments containing a random number of repeat units with each occurrence.

D1 Cont.

Amend the paragraph at page 14, line 22 through page 15, line 21 to read as follows.

The degree to which a random copolymer has segments resembling a "pure block" or a "pure alternating" copolymer depends upon the conditions under which it was polymerized. The relative reaction rates of monomer self addition versus co-monomer addition (also called reactivity ratio rates) also contribute to the "blocky" or "alternating" character of the random copolymer. For example, the two extremes of relative reaction rates (self addition/co-monomer addition) are zero and infinity. The rate is zero if an A moiety in a polymer chain can only add a B monomer to it. The rate is infinity where an A moiety in a polymer chain adds another A monomer unit at a rate that is infinitely fast compared to A/B addition. In the first case, a pure alternating copolymer will result. In the second case, a pure blocky copolymer of A will form, then add B moieties. Between these two extremes, copolymers containing segments of varying lengths of A and B moieties interspersed will result. This concept can be expressed according to the following relationship:

D2

$$r1=kaa/kab \quad r2=kbbkba$$